L Number	Hits	Search Text	DB	Time stamp
3	2	((dielectric or insulative or insulating or insulator) same metal same polysilicon same (prevent or preventing) same interaction) and (gate or electrode) and capacitor and @ad<20030312	USPAT; US-PGPUB	2004/06/25 09:03
4	0	((dielectric or insulative or insulating or insulator) same metal same polysilicon same (prevent or preventing) same interaction) and (gate or electrode) and capacitor	EPO; JPO; DERWENT; IBM_TDB	2004/06/25 09:00
5	2	((dielectric or insulative or insulating or insulator) same metal same polysilicon same (prevent or preventing) same (reaction or interface or interfacial)) and (gate or electrode) and capacitor	EPO; JPO; DERWENT; IBM_TDB	2004/06/25 09:03
6	0	((dielectric or insulative or insulating or insulator) same metal same polysilicon same (prevent or preventing) same (reaction or interface or interfacial)) and (gate or electrode) and PMOS and NMOS	EPO; JPO; DERWENT; IBM_TDB	2004/06/25 09:03
7	15	((dielectric or insulative or insulating or insulator) same metal same polysilicon same (prevent or preventing) same (reaction or interface or interfacial)) and (gate or electrode) and PMOS and NMOS	USPAT; US-PGPUB	2004/06/25 09:16
8	14	(((dielectric or insulative or insulating or insulator) same metal same polysilicon same (prevent or preventing) same (reaction or interface or interfacial)) and (gate or electrode) and PMOS and NMOS) and @ad<20030312	USPAT; US-PGPUB	2004/06/25 09:17
9	0	((dielectric or insulative or insulating or insulator) same metal same polysilicon same (prevent or preventing) same interaction) and (gate or electrode) and PMOS and NMOS	USPAT; US-PGPUB	2004/06/25 09:16
10	176	(high adj (dielectric or k)) same polysilicon same (prevent or preventing)	USPAT; US-PGPUB	2004/06/25 10:05
11	172	((high adj (dielectric or k)) same polysilicon same (prevent or preventing)) and (gate or electrode)	USPAT; US-PGPUB	2004/06/25 10:05
12	160	(((high adj (dielectric or k)) same polysilicon same (prevent or preventing)) and (gate or electrode)) and @ad<20030312	USPAT; US-PGPUB	2004/06/25 09:18
13	13	(high adj (dielectric or k)) same polysilicon same (prevent or preventing)	EPO; JPO; DERWENT; IBM_TDB	2004/06/25 10:05
14	12	((high adj (dielectric or k)) same polysilicon same (prevent or preventing)) and (gate or electrode)	EPO; JPO; DERWENT; IBM_TDB	2004/06/25 10:05

US-PAT-NO: 6617210

DOCUMENT-IDENTIFIER: US 6617210 B1

TITLE: Method for making a semiconductor device having a high-k gate dielectric

---------- KWIC ---------

Detailed Description Text - DETX (8):

Although silicon nitride is a preferred material for forming insulating layer 102, other materials that are compatible with both dielectric layer 101 and **polysilicon, and that prevent polysilicon** from interacting with dielectric layer 101, may be used instead--without departing from the spirit and scope of the present invention. Substrate 100 may comprise a thin silicon-on-insulator substructure, e.g., one that is sufficiently thin to facilitate the subsequent formation of a fully depleted device. Devices built upon such a substrate may be less susceptible to work function shifts that may result, when forming a thin metallic nitride layer between a **high-k gate** dielectric and a **polysilicon**-based gate electrode. For that reason, when substrate 100 comprises a thin silicon-on-insulator substructure, insulating layer 102 may comprise a metallic nitride, for example, titanium nitride or tantalum nitride.

US-PAT-NO: 6287965

DOCUMENT-IDENTIFIER: US 6287965 B1

TITLE: Method of forming metal layer using atomic layer deposition and semiconductor device having the metal layer as barrier metal layer or upper or lower electrode of capacitor

---------- KWIC ---------

Brief Summary Text - BSTX (6):

To obtain a **high dielectric** BST film having excellent capacitance and leakage current characteristics, a thermal process needs to be performed at a high temperature after depositing BST film. At this time, a barrier metal layer needs to be formed to **prevent** oxidation of an ohmic layer and a **polysilicon** plug due to diffusion of oxygen. The barrier metal layer is interposed between the **polysilicon** plug and a lower electrode.

Detailed Description Text - DETX (59):

Referring to FIG. 9E, an upper electrode 320 is formed on the **high di lectric** film 318. To **prevent** oxidation caused by the underlying **high dielectric** film 318 during a thermal process, the upper electrode 320 is formed such that a metal layer 320a acting as a barrier layer is formed of TiN or TaN on the **high dielectric** film 318 and a **polysilicon** layer 320b is formed on the metal layer 320a.

Detailed Description Text - DETX (60):

Instead of using the metal layer 320a and the **polysilicon** layer 320b, the upper electrode 320 may be formed of a metal layer, which is composed of a reactive metal (A), an amorphous combination element (B) for **preventing** crystallization of the reactive metal (A) and nitrogen (N), and nitrogen (N), for example, a TiAlN layer. To achieve excellent step coverage of the trench type **high dielectric** film 318, the upper electrode 320 is preferably formed by atomic layer deposition in the same manner as used in forming the lower electrode 314.